



SAFETY HEALTH AND  
ENVIRONMENTAL AFFAIRS

MAY 06 1993

ORIGINAL

# MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 2548 OXYGEN SCAVENGER

Emergency Telephone Number

Medical (708) 920-1510 (24 hours)

## SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 2548 OXYGEN SCAVENGER

DESCRIPTION: An aqueous solution of bisulfite and cobalt sulfate

NFPA 704M/HMIS RATING: 1/1 HEALTH 0/0 FLAMMABILITY 0/0 REACTIVITY 0 OTHER  
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

## SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX. %
Sodium bisulfite	7631-90-5	20-40
Potassium bisulfite	7773-03-7	1-5

## SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes and clothing. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

## SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.  
SKIN: Flush with water for 15 minutes.  
INGESTION: Induce vomiting. Give water. Call a physician at once.  
INHALATION: Remove to fresh air. Treat symptoms. Call a physician at once.

NOTE TO PHYSICIAN: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

## SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin, Inhalation

EYE CONTACT: Can cause mild, short-lasting irritation.



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## SECTION 5 HEALTH EFFECTS INFORMATION

( CONTINUED )

SKIN CONTACT: Can cause mild, short-lasting irritation.  
INGESTION: Can be harmful.  
INHALATION: May cause irritation to the respiratory tract and lungs.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

## SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but acute studies have been conducted on a similar product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD50 = 4,112 mg/kg

95% Confidence Limit = 3,571 - 4,735 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD50 = Greater than 3,000 mg/kg

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):  
SKIN IRRITATION INDEX DRAIZE RATING: 1.0/8.0

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):  
EYE IRRITATION INDEX DRAIZE RATING: 9.4/110.0

COMMENTS: No corneal or iridial effects observed. Transient conjunctivitis of 1, 24 and 48 hours. Eyes to normal by 72 hours.

### OTHER TOXICITY STUDIES:

Ingestion of sulfite can cause an allergic reaction in sensitive individuals. The resultant symptoms can include difficulty in breathing, flushed skin and a rash.

## SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear pink	FORM: Liquid	ODOR: Pungent
DENSITY:	10.1-10.7 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.22-1.28 @ 60 Degrees F	ASTM D-1298
pH (NEAT) =	3.5-4.1	ASTM E-70
VISCOSITY:	5 cps @ 60 Degrees F	ASTM D-2983



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## SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

( CONTINUED )

FREEZE POINT:	11 Degrees F	ASTIM D-1177
BOILING POINT:	205 Degrees F @ 760 mm Hg	ASTIM D-86
FLASH POINT:	None (PMCC)	ASTIM D-93

NOTE: These physical properties are typical values for this product.

## SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None (PMCC) ASTIM D-93

EXTINGUISHING MEDIA: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve SOx under fire conditions.

## SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

Avoid contact with strong acids (eg. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes.

STORAGE: Evolves SO2 when open to atmosphere. The rate of SO2 evolution increases with temperature.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion, SOx, H2S may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

## SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: If it is possible to generate significant levels of vapors or mists, a NIOSH approved or equivalent respirator is recommended.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended. Additionally, local exhaust ventilation is recommended where vapors or mists may be released.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles when attaching feeding equipment, doing maintenance or handling product. Examples of



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## SECTION 10 PERSONAL PROTECTION EQUIPMENT

( CONTINUED )

impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton, and butyl (compatibility studies have not been performed).

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

## SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (708-920-1510)

### SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 10.

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be deep-well injected in accordance with local, state and federal regulations.

## SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA: Results based on product.

96-hour static acute LC50 to Fathead Minnow = 382 mg/L



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## SECTION 12 ENVIRONMENTAL INFORMATION

( CONTINUED )

96 hour no observed effect concentration is 250 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Slightly toxic

48 hour static acute LC50 to Daphnia Magna = 728 mg/L

48 hour no observed effect concentration is 250 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Slightly toxic

If released into the environment, see CERCLA in Section 14.

## SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
ORM-E NA 9188  
CONTAINS - SODIUM BISULFITE

## SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

### FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:  
Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

Sodium bisulfite = Irritant  
Potassium bisulfite - Irritant

Sulfur dioxide = TWA 2 ppm, STEL 5 ppm ACGIH/TLV  
5 mg/m3 10 mg/m3 ACGIH/TLV  
Sodium bisulfite = TWA 5 mg/m3 ACGIH/TLV

Sulfur dioxide = TWA 2 ppm, STEL 5 ppm OSHA/PEL  
5 mg/m3 10 mg/m3 OSHA/PEL  
Sodium bisulfite = TWA 5 mg/m3 OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:

This product contains sodium bisulfite, a Reportable Quantity (RQ) substance and if 18,000 pounds of product are released, it requires notification to the



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NALCO 2548 OXYGEN SCAVENGER

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## SECTION 14 REGULATORY INFORMATION

( CONTINUED )

NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802).

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986  
(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):  
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act:  
When use situations necessitate compliance with FDA regulations, this product is acceptable under 21 CFR 173.310 Boiler Water Additives.

This product has been certified as KOSHER/PAREVE for year-round use EXCEPT FOR THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:  
Consult Section 11 for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15  
(formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

This product contains the following ingredient covered by the Clean Water Act:

Sodium bisulfite - Section 311

CLEAN AIR ACT, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments):  
This product does not contain ingredients covered by the Clean Air Act.



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## SECTION 14 REGULATORY INFORMATION

( CONTINUED )

### STATE REGULATIONS:

#### CALIFORNIA PROPOSITION 65:

This product does not contain any chemicals which require warning under California Proposition 65.

#### MICHIGAN CRITICAL MATERIALS:

This product contains the following substance(s) identified on the Michigan Critical Materials Register:

Trace of cobalt sulfate

### STATE RIGHT TO KNOW LAWS:

The following ingredients shown are disclosed for compliance with State Right To Know Laws:

Cobalt sulfate	10124-43-3
Potassium bisulfite	7773-03-7
Sodium bisulfite	7631-90-5
Water	7732-18-5

## SECTION 15 ADDITIONAL INFORMATION

None

## SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

## SECTION 17 BIBLIOGRAPHY

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## SECTION 17 BIBLIOGRAPHY

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